CLAIMS:

1. A cavity, comprising:

- a first cavity end mirror (10) and a second cavity end mirror (20), both mirrors being arranged to at least partially reflect an incident beam (100) of electromagnetic radiation towards each other,

- an optical path of said beam of electromagnetic radiation within said cavity, which is defined in length by said first (10) and second cavity end mirror (20),

- a dispersive device (50), which is arranged, such that a portion of said optical path of said beam (100) of electromagnetic radiation traverses through said dispersive device (50),

wherein said dispersive device (50) comprises a dispersive characteristic representing a functional dependence of an optical path length of said portion with respect to wavelength of said electromagnetic radiation, wherein said optical path length increases with an increasing wavelength of said electromagnetic radiation.

2. The cavity according to claim 1,

wherein said functional dependence of said dispersive characteristic is designed to admit exactly one single mode of electromagnetic radiation to develop within said cavity.

3. The cavity according to claim 1,

wherein said functional dependence of said dispersive characteristic is designed such that said optical path length within said cavity is the same for any two different wavelengths of said electromagnetic radiation at least within a limited wavelength range.

4. The cavity according to claim 1 or any one of the above claims,

further comprising a gain medium (50) for generating said electromagnetic radiation, said gain medium (50) comprising a back facet, which is identical to said first cavity end mirror (10), and a front surface (51), said gain medium (50) emitting said beam (100) through said front surface (51) towards said second cavity end mirror (20).

5. The cavity according to claim 1 or anyone of the above claims,

wherein said dispersive device (50) represents at least a part of said second cavity end mirror (20).

6. The cavity according to claim 1 or anyone of the above claims,

further comprising a lens (40) for collimating said beam (100) emitted from said gain medium (50) along said optical path towards said second cavity end mirror (20).

7. The cavity according to claim 6,

wherein said dispersive device (30) represents at least a part of said lens.

8. The cavity according to claim 3 or any one of the above claims,

further comprising a wavelength tunable filter (60) for selecting a wavelength range of a spectral distribution of said electromagnetic radiation comprising one resonance mode out of the set of resonance modes of said cavity.

9. The cavity according to claim 7 or any one of the above claims,

wherein either one of said gain medium (50) or said second cavity end mirror (20) is movable in the direction of the optical path of said beam

(100) for adjusting said optical path length of said cavity to said selected wavelength range provided by said wavelength tunable filter (60).

10. The cavity according to claim 8,

wherein said wavelength tunable filter (60) comprises a grating for diffracting and redirecting said beam (100) of electromagnetic radiation, the cavity being either one of a Littrow cavity or a Littmann cavity.

11. The cavity according to claim 1 or any one of the above claims,

wherein said dispersive device (30) comprises

12. The cavity according to claim 1 or any one of the above claims,

wherein said dispersive device (50) comprises one or more materials of the group comprising:

- semiconductor material epitactically grown on a substrate material, said semiconductor material and said substrate material being either combination of: AlGaAs and GaAs, AlGaInP and GaAs, InGaAsP and InP, or AlGaN and GaN, respectively.

- a semiconductor material deposited on a substrate material in a vapor deposition step, said semiconductor material being one of a group comprising: Si, Ge.

- a semiconductor material structured as bulk material being one of Si, GaAs, and InP.

- a dielectric material being of SiO_2, TiO, Ta_2O_5, SiN.

- a polymer material of a group comprising PMMA.

13. The cavity according to claim 4 or any one of the above claims,

wherein said gain medium (50) is a linear source optical amplifier.

14. The cavity according to claim 4 or any one of the above claims,

wherein said dispersive device (30) is integrated within said gain medium (50).

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